

Abstract of the Disclosure

An inventive method for electrical and thermal electronic component attachment is disclosed. The combination of transient liquid phase sintering (TLPS) and a permanent adhesive flux binder provides the advantages of both conventional soldering technology and conductive adhesives. This hybrid approach delivers electrical and thermal conduction through sintered metal joints and mechanical properties based on a tailorable polymer matrix. These transient liquid phase sintering conductive adhesives can utilize conventional dispensing, placement, and processing equipment. During the reflow process, metal powders in the composition undergo interparticle sintering as well as alloying to the contact pads. This process produces a strong mechanical, thermal, and electrical interconnect which ensures good conductivity that is also resistant to humidity and temperature cycling.